ON-SITE USE OF RADIOACTIVE DEVICES

(a) For Subcontractor-owned RSSs and/or machine neutron generators, as defined below, the Subcontractor shall notify the Source Control Office (SCO) at (505) 665-5298, as soon as it is determined that such device will be brought on-site.

(b) The Subcontractor shall provide a copy of a current, valid license to the SCO that verifies the Subcontractor's authorization to possess and safely use the RSS and/or machine neutron generator.

(c) The Subcontractor shall coordinate with the SCO to schedule a time when the SCO may review actual, on-site operations of Subcontractor-owned RSS and/or machine neutron generator.

(d) If the RSS or machine neutron generator does not meet all stated requirements, the Subcontractor shall not be allowed to use the RSS or machine neutron generator on LANL/DOE property.

(e) Definitions.

A machine neutron generator is an electrical device that accelerates deuterons to kinetic energies of a few hundred kilovolts within an evacuated cavity into either a deuterated or tritiated target material to produce pulses of neutrons or a device in which photons are used to liberate neutrons from a low-Z target material.

A radioactive sealed source (RSS) is an item manufactured, obtained, or retained for the purpose of utilizing the emitted radiation. The RSS consists of a known or estimated quantity of radioactive material contained within a non-radioactive sealed capsule, sealed between layer(s) of non-radioactive material, or firmly fixed to a non-radioactive surface by electroplating or other means intended to prevent leakage or escape of the radioactive material. Gas chromatographs containing radioactive material and machine neutron generators are considered to be RSSs for purposes of accountability and radiological control. Embedded RSSs contained in radiation measuring instruments are also considered to be RSSs for purposes of accountability only.

Guidance Note 1: The following items/equipment, which may be present at LANL, are not considered to be RSSs under the above definition and need not meet the requirements of this clause:

- Consumer products that have been approved by the NRC to contain small amounts of radioactive material for distribution to the public without a license. Examples include tritium “exit” signs, luminous dial wrist watches/compasses, static eliminator brushes, smoke detectors, thoriated optical glass, lenses, gas mantles, welding rods, fluorescent lamp starters, spark gap irradiators, plutonium-powered cardiac pacemakers, certain ceramics/glassware/dental products containing uranium, and ion (electron) generating tubes;
- Foils used for neutron activation;
- Activated shielding/equipment/materials not intended to be further manufactured into RSSs;
- Fission chambers;
- Nuclear reactor fuel elements or critical assemblies;

- Radioisotope thermoelectric generators containing special nuclear material;
- General purpose heat sources containing special nuclear material;
- Closed bottles of radioactive solutions in radiochemistry labs or isotope (e.g., technetium) generators;
- Uranium and thorium structures used for shielding, ballast, or counterweights;
- Depleted uranium used in aircraft ailerons, elevators, landing gear, or rotor blades;
- Depleted uranium used to suppress vibration in petroleum exploration equipment;
- Depleted-uranium instrument check sources typically used by ESH-1radiological control technicians;
- Military munitions containing radioactive material;
- Radioactive commodities used in or on military equipment;
- Radioactive material contained in armor plate;
- Yellow cake (U3O8 or UO4) in closed shipping containers;
- Enriched UF6 in containers undergoing shipment;
- Sodium iodide detectors seeded with radioactive 241Am;
- Non-firmly-fixed, dry radioactive material on calibration plates used to calibrate low-level radioactivity counting equipment;
- Radioactive-material-in-process;
- Radioactive x-ray production targets contained within evacuated cavities; and
- Closed canisters of stored special nuclear material.

Guidance Note 2: Based on DOE's definition of an RSS as stated in 10 CFR 835.2, whereby nuclear explosive devices are exempt from being designated as RSSs, no radioactive components (e.g., pits, war reserve (WR) bottles, neutron generators, etc.) of nuclear explosive devices/weapons or nuclear-like devices/weapons shall be controlled as RSSs.